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SUBJECT: Forwards addl info re final steam generator repair rept, assist in EIS preparation,per request.

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Carolina Power & Light Company

SERIAL: LAP-83-317

July 14, 1983

Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
FOR ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Varga:

Please find attached the Carolina Power and Light Company (CP&L) response to NRC staff requests for additional information regarding the H. B. Robinson (HBR) Final Steam Generator Repair Report. The questions requested input material for use in preparing an environmental impact statement by the Staff for the HBR Steam Generator Repair Program. These questions generally involved a cost benefit analysis of alternatives to the proposed repair program and the effects of external events (earthquakes and tornados) on the steam generator storage building.

Should you have any questions regarding this material, please contact a member of my staff.

Yours very truly,

S. R. Zimmerman
Manager
Licensing & Permits

SRZ/DCS/tda (7412DCS)

Attachment

cc: Dr. David L. Hetrick (ASLB)
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CAROLINA POWER & LIGHT COMPANY
RESPONSE TO NRC STAFF QUESTIONS
ON
H. B. ROBINSON UNIT NO. 2 STEAM GENERATOR REPLACEMENT

1. Provide the labor, equipment and operating costs and down time for the proposed plan, including charges on H. B. Robinson nuclear fuel inventory. H. B. Robinson O&M costs and replacement power costs during the down time.

Response

The total capital cost of the proposed plan of replacing the Robinson 2 steam generator lower assemblies (SGLA's) in 1984 is estimated to be $105,673,000. This estimate includes the cost of various support modifications which are directly related to the replacement project. The total cost can be broken down into three categories: labor, equipment, and other costs. It should be noted that because of contractual agreements for equipment being purchased and support modifications already performed, a commitment has been made for approximately $67 million of the $105,673,000 total cost.

Labor:

The labor cost associated with the SGLA replacement project is estimated to be approximately $37,485,000 (including engineering, construction labor, and other support costs). The proposed plan will require a maximum construction work force of approximately 1000 personnel during the outage period.

Equipment:

The equipment costs (including major equipment, such as replacement steam generator lower assemblies, and construction materials, such as concrete and reinforcing steel) are estimated to be approximately $37,161,000.

Other Costs:

The estimate of the other costs associated with the proposed plan is approximately $31,027,000 (including overheads, contingency funds, and Allowance For Funds Used During Construction).

The above items comprise the total capital cost of $105,673,000. The following items should also be considered and would be in addition to the capital cost.

Operating Costs:

The estimate for operating and maintenance costs (O&M), exclusive of fuel, would not be significantly different during 1984 for replacement of the SGLAs than for continued operation of Robinson 2 at current levels. This is because the O&M cost estimate reflects only the cost of a refueling outage and normal maintenance. The cost of the replacement of the steam generators is capitalized and is not included in O&M cost. Both alternatives include a refueling outage in 1984 and, therefore, do not differ significantly in O&M costs. The projected O&M costs for Robinson 2 are provided in response to Question 3.

Down Time:

The estimated length of the outage to replace the steam generator lower assemblies is 43 weeks including refueling. The length of a refueling outage is generally about 15 weeks, which includes refueling and normal annual maintenance. Therefore, the projected additional outage time to replace the steam generator lower assemblies is 28 weeks.

Replacement Power Costs:

Due to the additional 28 weeks of outage time in 1984, the cost of replacement power (fuel and purchased power) above what it would be to continue operation of Robinson 2 at current levels is estimated to be approximately $41 million. Replacement power cost is in addition to the total capital cost of $105,673,000, bringing the total replacement outage cost to approximately $147 million.

2. Justify in terms of costs and technical feasibility the proposed plan as compared to alternative steam generator repair plans including:

   (1) replacement of the entire steam generators
   (2) retubing the steam generators in place
   (3) sleeving the steam generator tubes.

<u>Response</u>

(1) The replacement of the Robinson 2 steam generator lower assemblies (SGLAs) by replacing the <u>entire</u> steam generators utilizing the reactor coolant pipe cut method or by the proposed plan using the channel head cut method, are both technically feasible alternatives. However, CP&L has chosen the channel head cut method for two reasons: (1) reduced estimated radiation exposure, based on the actual exposure reduction achieved due to experience between Turkey Point 3 and 4 (Channel head cut method) as compared with the actual exposure realized at Surry 2 (reactor coolant pipe cut method), and (2) a reduction in the cost of the SGLAs, of approximately $2.6 million (1981 dollars). Therefore, the Company has rejected the replacement of the <u>entire</u> steam generators because of anticipated higher radiation exposure and higher estimated cost than the proposed plan.

(2) CP&L dismissed the concept of retubing the steam generators in place because of the excessive radiation exposure (6900 REM) as projected in NUREG/CR-1595, December 1980, (Appendix C). The in-place retubing exposure of 6900 REM can be compared with an estimated radiation exposure for replacement of the SGLAs by the proposed plan of 2120 REM. Also, this is not a proven repair method since no large commercial nuclear unit has ever used this method. In addition, retubing the steam generators in place would increase the difficulty of implementing the full spectrum of the proposed design improvements incorporated in the new SGLAs, which in turn would probably result in a more exposure intensive operation. Therefore, because of the uncertainties associated with this unproven method,

the difficulty in making all currently planned improvements, and higher projected radiation exposure than the proposed plan, the Company rejected retubing of the steam generators in place.

(3) A sleeving program for the Robinson 2 steam generators was investigated. Due to the almost infinite number of variables a finite study would be essentially impossible. However, assumptions were made on the effectiveness of installing 3000 sleeves. This would be about the minimum number of sleeves and minimum cost which could be employed to provide beneficial operating results. It should be noted that because of the current state of the steam generators and the various degradation causes, sleeving will not provide a permanent fix.

The assumptions upon which consideration of sleeving was based are as follows:

1. According to analysis and projections by Westinghouse, the installation of 3000 sleeves would prolong eventual steam generator lower assembly replacement by from about 24 effective full power months (EFPM) (approximately 3.2 calendar years) to about 39 EFPM (approximately 5.6 calendar years).

2. Continued eddy current inspections would be required each 3 EFPM of operation, based on current requirements and other steam generator problems which would not be remedied by sleeving.

3. Return to operation at 2200 MWT or approximately 95 percent of full rated power would be authorized by the NRC.

4. The 3000 sleeves could be installed during a 12 week outage in 1984.

5. SGLA replacement would occur in 1987-88 based on a prolonged life of 24 EFPM or in 1990 based on a prolonged life of 39 EFPM.

Along with the above assumptions, a price proposal was obtained for materials and services. An estimate of the necessary CP&L support costs for the installation of the 3000 sleeves was also made. Although CP&L did not perform a detailed production cost analysis based on the above assumptions, it was obvious that because SGLA replacement would eventually be required, sleeving was not a justifiable alternative from either a cost or a radiation exposure standpoint, when compared to the Company's proposed replacement program. The following information compares both cost and radiation exposure for the sleeving alternative and the proposed SGLA replacement plan:

Cost Comparison

Capital costs for a sleeving program were developed and compared with the capital costs of the proposed plan. The capital costs for the sleeving program were based on the longest projected steam generator life extension of 39 EFPM. Because of contractual agreements for equipment already ordered and support modifications already performed, a large portion of the cost of SGLA replacement has already been committed to.

The following is a comparison of the capital costs of sleeving and the proposed replacement plan.

Nominal Dollar Comparison
(000's $)

Sleeving Program	Proposed Replacement Plan	Difference
$170,421	$105,673	$64,748

Present Value (1983) Dollar Comparison
(000's $)

Sleeving Program	Proposed Replacement Plan	Difference
$132,658	$101,982	$30,676

Not only would the capital cost of a sleeving program be greater, but the additional outage time required for the sleeving work and subsequent eddy current testing outages would result in greater replacement power costs for sleeving.

Radiation Exposure

The projected exposures (REM) for each alternative are provided below for the period 1984 through 1990.

Sleeving Alternative		Proposed Plan	
Activity	REM	Activity	REM
Sleeving	900	SGLA Replacement	2120
3 Month Eddy Current Test (ECT) (8)	800	Annual ECT (6)*	300
SGLA Replacement	2120		2420
Annual ECT (3)*	150		
	3970		

*Upon replacement of the Robinson 2 SGLAs, eddy current tests (ECTs) will be required but on a reduced frequency and scope from those performed prior to replacement.

The above comparisons clearly show that the proposed plan is more beneficial on both a cost and exposure basis; therefore the Company ruled out sleeving in favor of the proposed plan.

3. Provide a present worth comparison of accumulated annual charges, including annual production costs over the life of the plant, for the following alternatives:

   (1) the proposed steam generator repair plan,

   (2) replacement of H. B. Robinson by alternative sources, purchases, and/or generation,

(3) steam generator repairs such as initial resleeving and periodical tube plugging coupled with reduced output as necessary.

Provide cost estimates and assumptions used for the cost comparisons such as cost additions (including cost of required new generation and transmission facilities), fixed charge rate, discount rate, inflation, nuclear fuel cost, purchase power cost, nuclear O&M cost, alternative fuel cost, alternative's O&M cost, and decommissioning costs.

Response

(1)&(2) A comparison was made between (1) the proposed plan and (2) the alternative of retiring Robinson 2 on December 31, 1984 because of the projected deterioration of the steam generators. Based on the current state of the steam generators and the current projected rate of deterioration, it is anticipated that it would no longer be economical to continue operation of Robinson 2 beyond 1984 without repairing the steam generators. This is because of the Unit derations and frequent steam generator inspections that would be required. For a discussion and comparison of (1) the proposed plan and (3) sleeving, see the Company's response to Question 320.2(3).

The comparison of Alternates (1) and (2) includes all applicable costs, both capital and other costs (including production, decommissioning, and nuclear insurance costs) for the 15 year study period of 1984 through 1998. Production costs are based on a production cost simulation computer model which is normally used for study purposes by the Company. For purposes of the comparison it was assumed that Robinson 2 could continue to operate at basically the same level as is currently being experienced, which is at approximately a 70 percent operating capacity factor with a steam generator inspection outage every 3 EFPM through 1984. The unit would then be retired on December 31, 1984. This scenario was compared with the proposed plan which reflects a return to full power operation and an 85 percent operating capacity factor after replacement of the SGLAs. For clarification, operating capacity factor is an average capacity factor which excludes periods of scheduled outage.

The cost comparison of the two alternatives revealed that retirement of Robinson 2 would cost approximately $830 million in nominal dollars or $348 million dollars in 1983 dollars more than the proposed replacement plan, for the 1984 through 1998 period. The following table shows the estimated annual charges (including capital, production, decommissioning, nuclear insurance, and replacement power costs) for Alternatives (1) and (2). This table reflects the lower cost in 1984 which would be realized by the retirement alternative below that of the replacement alternative because, under the retirement alternative, less outage time would be required in 1984. However, as also shown in the table, the replacement alternative will provide a savings to the customer for each year beyond 1984, accumulating to a total savings of $830 million in nominal dollars or $348 million in 1983 dollars by the end of the study period (1998). Similar savings would be expected to continue for the operating life of the unit.

Year	Alternative (1): Replacement of Steam Generator Lower Assemblies in 1984 (000's $)	Alternative (2): Retire Robinson 2 December 31, 1984 (000's $)	Additional Cost of Alternative (2) Over (1) (Nominal 000's $)	Additional Cost of Alternative (2) Over (1) (1983 000's $)
1984	761828	719514	-42314	-38671
1985	767737	817866	50129	41869
1986	847616	894338	46722	35664
1987	918807	926714	7907	5516
1988	1101398	1118362	16964	10815
1989	1092615	1210525	117910	68702
1990	1189124	1214104	24980	13302
1991	1458562	1486412	27850	13554
1992	1441645	1514283	72638	32307
1993	1621005	1723921	102916	41833
1994	1934101	1990309	56208	20880
1995	2081988	2131892	49904	16942
1996	2315034	2435528	120494	37386
1997	2579761	2669751	89990	25518
1998	2868250	2956285	88035	22814
TOTALS	22979471	23809804	830333	348431

These estimates reflect the following assumptions:

1. The annual fixed charge rates for Robinson 2 capital costs range from 20.6 to 12.6 percent during the study period.

2. The discount rate used in the study was 9.42 percent.

3. Inflation was considered in escalation rates used for each of the various cost components (capital, fuel, O&M, etc.). Inflation rate differs for each of these components because of various factors which make up a given component. The effect of inflation may be seen in the annual cost information provided in response to these questions.

4. The Robinson 2 fuel cost ranged from 28¢/MBtu to 148¢/MBtu over the study period.

5. The purchased power cost including both energy and capacity charges ranges from approximately 30 mills/kWh to 130 mills/kWh with an average of about 59 mills/kWh over the study period.

6. The O&M Cost for Robinson 2 is projected to be as follows for the study period:

Year	O&M Cost (000's $)
1984	37,769
1985	32,944
1986	28,724
1987	38,519
1988	41,978
1989	41,306
1990	37,141
1991	49,155
1992	52,706
1993	49,651
1994	54,290
1995	64,910
1996	69,589
1997	60,426
1998	77,198

7. The alternative fuel cost is a mixture of increased generation from more expensive sources on the CP&L system plus purchases. The average additional replacement energy cost is calculated by taking the difference in energy cost (fuel cost and purchased power cost) between the replacement and retirement alternatives and dividing by the Robinson 2 generation in the replacement case. The estimated average additional replacement energy cost for Robinson 2 is as follows:

Year	Additional Replacement Energy Cost ($/MWH)
1985	27.7
1986	29.2
1987	27.9
1988	31.0
1989	41.4
1990	35.9
1991	28.9
1992	44.0
1993	51.6
1994	37.6
1995	41.5
1996	44.8
1997	47.1
1998	52.5

For purchased power it was assumed that from 1984 through 1988, replacement capacity could be purchased based on an average cost of existing mature coal-fired units. However, for the period beyond 1988, no determination can be made as to the availability of capacity from neighboring utilities. The assumption was made that some capacity could be purchased; but in lieu of the lower rates used in the mid-1980's such capacity would have to be purchased at prices based on new coal-fired units with scrubbers.

8. We have not identified any one unit or set of units that would provide replacement power for Robinson 2. Replacement energy and capacity would come from other existing and planned units on the system plus purchases. Therefore, the alternative O&M cost is not identifiable.

9. The additional decommissioning cost due to retirement of Robinson 2 is as follows:

Year	Additional Decommissioning Cost (000's #$)
1984	33,287
1985	-5,268
1986	-5,750
1987	-6,275
1988	-6,849
1989	-7,475
1990	-8,158
1991	-8,904
1992	-9,717
1993	-10,606
1994	-11,575
1995	-12,633
1996	-13,788
1997	-4,110
1998	0

The additional decommissioning cost reflects the different time periods over which the revenues would be collected. Under the proposed plan the decommissioning revenues would be collected annually through 1997. Under the retirement case the decommissioning revenues would need to be collected during 1984 in order to be able to begin the decommissioning process in 1985. Therefore, because of the difference in time period over which the decommissioning revenues would be collected and the corresponding effect inflation would have on the cost of decommissioning, the overall decommissioning cost for retirement in 1984 would be less than for the proposed plan.

10. The retirement of Robinson 2 under Alternative (2) would result in insufficient generating capacity on the CP&L system. Construction of generating units planned or anticipated for the future would be accelerated to make up the deficiency created by the retirement of Robinson 2. The benefit of the acceleration of these units has been included for determining production costs; however, the additional capital cost of constructing the replacement capacity has not been included in the above cost comparisons. Inclusion of the cost of replacement generating capacity would further increase the cost of Robinson 2 retirement, resulting in increased savings from continued operation of Robinson 2 after replacement of the SGLAs in 1984.

4. Discuss the other differences of the above three alternatives such as reserve capacity differences, transmission adequacy for power purchases, differences in pollution, nuclear waste disposal, and fossil fuel usage.

Response

Retiring Robinson 2 would necessitate an accelerated construction schedule. However, even with an accelerated construction schedule, reserve margins below the Company's planning guideline of a minimum of 20 percent are anticipated until new capacity could be placed in service in 1990. A reserve margin comparison of these early years follows:

Year	Proposed Plan (Percent Reserves)	Robinson 2 Retirement on December 31, 1984 (Percent Reserves)
1985	19.2	10.7
1986	28.4	19.6
1987	26.4	17.7
1988	23.5	15.1
1989	20.6	12.3

It should be noted that in addition to the low reserve margins shown for 1985 through 1989, a large portion of the capacity represented by those reserve margins would consist of the more than 1000 MW of high operating cost internal combustion turbines currently installed on the CP&L system.

The CP&L transmission system should be adequate for all power purchases made necessary by retirement of Robinson 2. The retirement would increase usage primarily of coal fired capacity. Based on the increased coal usage projected for the retirement alternative, the particulate emissions would increase by approximately 51,000 tons, the SO_2 emissions would increase by about 590,000 tons, and the NO_x emissions would increase by approximately 333,000 tons, over the 15-year study period. In addition to the increased emissions, the quantity of ash which would require disposal would increase by approximately 2 million tons.

The impact on nuclear waste disposal would be the same for all batches of fuel loaded through 1984. However, if Robinson 2 would be retired, all the spent fuel from the batches that would have been loaded between 1985 and 1998 (estimated at approximately 212 metric tons) would not require nuclear waste disposal. Also, based on an assumed average annual exposure of 800 MAN REMS, the retirement alternative would reduce radiation exposure by approximately 11,000 MAN REMS over the study period. Low level waste would also be reduced by roughly 560,000 cubic feet over the 15-year study period.

The increase in fossil fuel usage over the 1984 through 1998 study period would be approximately 16 million tons of coal, 3 million MCF of natural gas, 7 million gallons of oil, and 33 million gallons of propane.

5. Discuss alternative methods of disposal of the steam generators under the proposed alternative, and justify the method(s) selected.

Response

Five alternative methods of disposal are discussed in Section 3.5 "Disposition of Steam Generator Lower Assemblies (SGLA)" of the Final Steam Generator Repair Report. Table 3.5-1 on page number 69 of the report summarizes the comparison of the five options based on cost, man-hours, man-rem, airborne releases, off-site doses and radwaste generated.

6. Describe the general features of the temporary steam generator storage building, including the following:

a. Type of structure -- materials and strength
b. Seismic resistance capability
c. Tornado missile resistance capability
d. Tornado and high wind resistance capability
e. Fire protection features
f. Shine and skyshine gamma radiation shielding features
g. Personnel access control
h. Flood protection capability

Response

a) The SGLA vault will be 49' long, 44' wide, and 18' high, with the foundation, walls, and roof consisting of reinforced concrete. The concrete design will be in accordance with ACI-301, "Specifications for Structural Concrete for Building," and ACI-318, "Building Code Requirements for Reinforced Concrete," latest editions. Concrete reinforcing will be in accordance with ASTM 615, "Deformed and Plain Billet-steel Bars for Concrete Reinforcement," latest edition.

b) Seismic design is not required and no analysis has been performed.

c) Tornado missile resistance capability design is not required and no analysis has been performed.

d) The SGLA vault is designed to withstand a 110 MPH wind speed. (Wind loadings are in accordance with the Uniform Building Code.)

e) The steam generator vault and the stored lower assemblies are constructed with non combustible materials. Furthermore, no combustible materials will be stored in the vault. Therefore, fire protection features are not required.

f) The walls and roof of the steam generator vault are designed for a minimum thickness of 2 feet. Exposure rate surveys of the HBR steam generators are comparable to the actual surveys taken at Surry and Turkey Point where 2 foot thick shielding was also employed and proved to be more than adequate, therefore, shine and skyshine are not a problem.

g) The SGLA vault is located within the protected area boundary. A personnel entrance is provided by a locked metal door at a shielded opening. The shielded opening is accessible through a locked chain-link gate.

h) The elevation of the SGLA vault is higher than the projected flood levels of Lake Robinson, therefore, no flood design has been incorporated.

7. Discuss the effects of an external event such as tornado or earthquake on the stored steam generators. Include missile potential and possible radiological consequences, if any. Or alternatively, discuss questions 7a and 7b.

7a. Discuss whether the potential exists for the stored steam generator and/or parts thereof to undergo high velocity impact with an unyielding surface. Discuss the quantity and particle size distribution of radioactive corrosion product (crud) particles which could be created in the impact and their potential for release to the environment.

7b. Discuss whether parts of the stored steam generator sections could become airborne in tornado/high winds. If so, discuss onsite systems, components or storage tanks that are potentially vulnerable.

Response

As discussed in question 6 the steam generator vault is an engingered reinforced concrete structure. The steam generators were originally designed to withstand the design basis earthquake witout loss of integrity. Due to their small size and larger weight, the steam generators would not be expected to become airborne during a tornado. With the steam generator being sealed prior to storage and even assuming the vault could be damaged by a tornado or seismic event, no radioactive releases would be expected.

8. Discuss any provisions for treatment and monitoring of gaseous and liquid effluent from the steam generator storage building.

Response

Stored components will be sealed to prevent the release of radioactive materials to the building. The storage building is provided with a sump to collect and store any liquids which may be present in the building. The building vent has a HEPA filter to prevent the release of airborne radioactivity from air interchanges due to ambient temperature variations.

Liquids collected, if any, can be processed in plant systems or released depending on the level of radioactivity. Thus, the potential for releases of radioactivity to the environment due to the storage of the steam generator components is insignificant. However, a periodic area radiation survey and monitoring program will be implemented to assure that there are no releases of radioactivity to the environment. In addition, samples of air within the steam generator storage building and any liquids in the building sump system will be periodically analyzed for radioactivity. The length of time between the periodic radiation surveillances has not yet been determined.

9. Discuss and evaluate an appropriate diffusion and transport relative atospheric concentration (x /Q) at the exclusion area boundary point in closest proximity to contaminated steam generator sections stored in the temporary storage building.

Response

In evaluating the off-site consequences of airborne relases from the H. B. Robinson containment, a worst case x /Q value of 1.7E-03 sec/m^3 was used. Since the distance from the steam generator storage bulding to the exclusion boundary exceeds that from the containment building to the exclusion boundary, the same x /Q value is conservatively assumed.

10. Discuss any plans for coating the deposits of radioactive corrosion products to reduce near zone doses.

Response

CP&L has no plans to coat radioactive corrosion product deposits to reduce near-zone exposure rates. CP&L will consider external shielding of hot spots caused by non-uniform deposition.

SOCIO-ECONOMIC EFFECTS OF REPLACING THE ROBINSON 2
STEAM GENERATOR LOWER ASSEMBLIES

The socio-economic effects of replacing the Robinson 2 steam generator lower assemblies (SGLAs) are basically beneficial. The replacement outage will last approximately 43 weeks during which time a construction work force of up to about 1000 personnel will be assembled to perform the necessary work. This work force will provide short term jobs for some local craftsmen and laborers. Also, some of the support modifications were started in 1982 and will continue through 1984. These will provide some longer term jobs. A portion of the payroll for the work force will probably be spent for local goods and services. Also, many of the construction materials, such as concrete and reinforcing steel, and some construction services, will be purchased either locally or regionally. Thus, the replacement project should benefit the local economy.

It is anticipated that the additional work force of approximately 1000 people will not place adverse demands on the local area for housing and services, because a large portion of this work force will probably commute from surrounding areas such as Florence, Fayetteville, Charlotte, and Columbia.

Although the replacement project work will provide short term benefits to the local economy, the largest benefit from the replacement will come in allowing Robinson 2 to continue operation. Without the repair of the steam generators, Robinson 2 would have to be retired. Retiring Robinson 2 will have adverse impacts on the surrounding area. The estimated payroll for normal plant operation is approximately $11 million per year in 1983 dollars and provides jobs for approximately 500 personnel. The estimated additional payroll for refueling outages is approximately $4 million in 1983 dollars and requires an additional labor force ranging from approximately 100 to 300 personnel. The majority of this payroll and employment would be lost to the area if the unit is retired. Approximately $3 million (1983 dollars) in materials per year is purchased for Robinson 2. A portion of this is purchased in the area. That income would also be lost to the local economy under the retirement scenario.

Property taxes would be affected in a similar way. Currently, CP&L pays approximately $1.2 million annually in property taxes to Darlington County for Robinson 2. The effect of retirement would be a significant loss (approximately 11%) in tax revenue to the county. Any future increases in tax revenue due to additions at Robinson 2 and tax rate increases would also be lost under the retirement alternative.

Therefore, the replacement of the Robinson SGLAs would provide significant overall benefit by providing a short term boost in local economy income, but more importantly, providing continued employment for approximately 500 people and a significant portion of the local tax revenue.